
# P³ Profitable Product Performance

Target Costing inside

Concept for Alternatives Generation at MD

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## Introduction

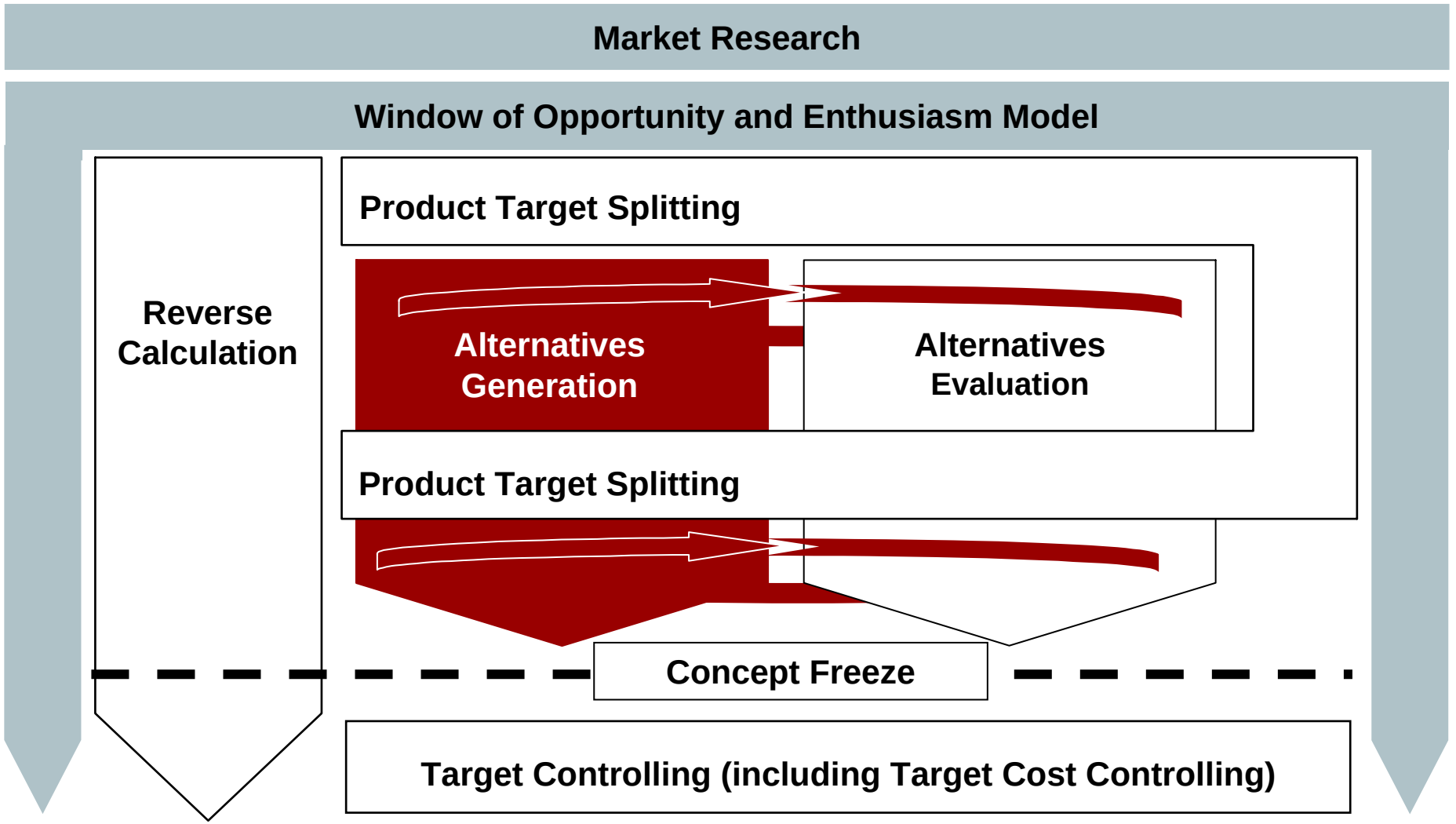
- The purpose of the paper is to **explain the principles of Alternatives Generation** within the Target Costing methodology.
- The paper is one of 6 concept papers in the Target Costing compendium for MD.
- The paper is divided into 2 chapters:
  - The **first chapter** gives an **overview** of the **methodology** of the tool.
  - The **second chapter** presents the adaptation of the Alternatives Generation to specific requirements of MD.

# Agenda

- **Methodology and benefits of the Alternatives Generation**
- The Alternatives Generation at Siemens MD

# The Target Costing concept

**Based on results of the Enthusiasm Model, indications of the Reverse Calculation and the Product Target Splitting, the Alternatives Generation supplies input for the Alternatives Evaluation**





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## Definition and benefits of Alternatives Generation

**The Alternatives Generation defines possible options for pre-development of components, product concepts and in-depth technical solutions**

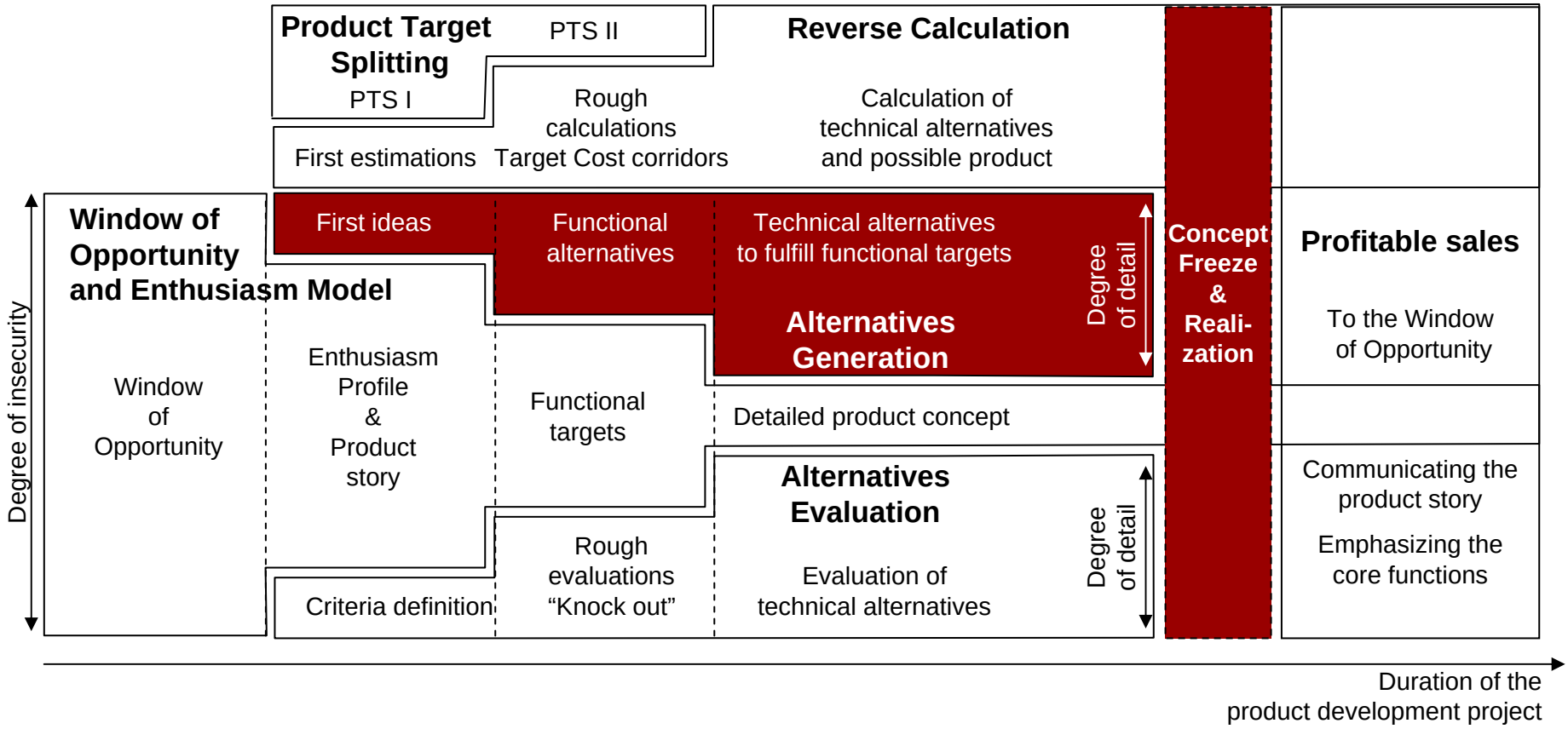
The **Alternatives Generation** (AG) aims at **identifying favorable product, module and component alternatives** which not only **satisfy the requirements** set by the predefined **window of opportunity** but also **meet** the **cost guidelines** set by Reverse Calculation and Product Target Splitting.

### Benefits of the Alternatives Generation

- AG assures a **wide understanding of how product ideas are created**.
- AG guides **structured and systematic generation of different platform, concept, module and component options**.
- Due to it´s structure AG enables the reuse of the **documented decisions and information** and therefore could **speed up future decision processes**.
- AG describes the **different alternatives for reaching a desired cost and market position** and thus supports fact-based decision taking (Alternatives Evaluation).
- AG supports profit-focused **decision at an early stage of the product development** process and thus minimizes dead ends, time excess, cost “explosions” etc.

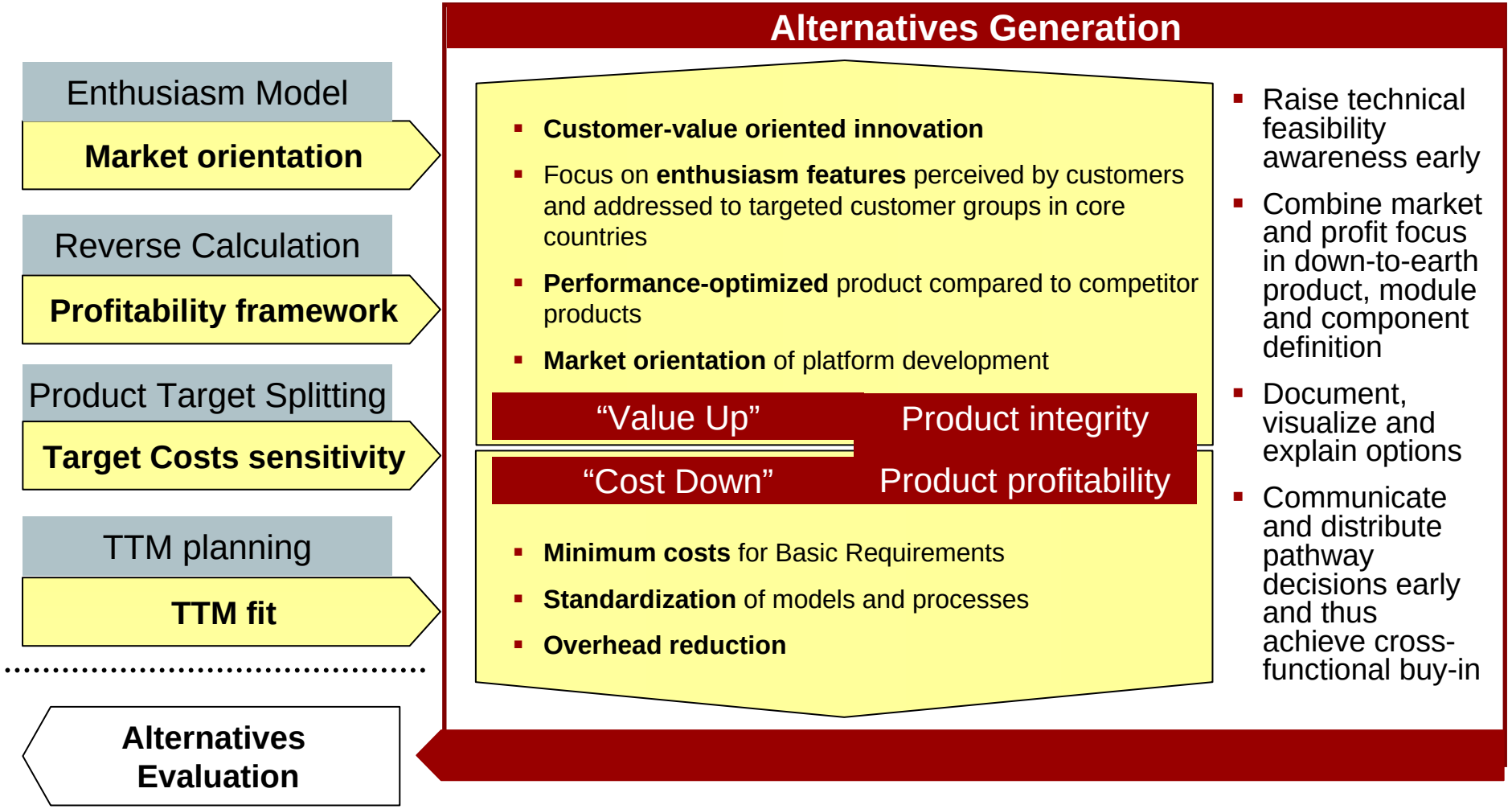
# Alternatives Generation: Translating Enthusiasm Model to products

**The AG translates Enthusiasm Model goals into specific solution options and, with Alternatives Evaluation as "sparring partner", assures structured product detailing**



# The concept Alternatives Generation

**The process of Alternatives Generation focuses on combining market orientation, profitability awareness and cost corridor thinking into feasible options while balancing costs and perceived value**





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# Tools for Alternatives Generation

**Cross-functional cooperation, structured moderation and specialized methodologies are key success factors for generating alternatives.**


## Alternatives for platforms

**Alternatives Generation**

- Combine information in internal workshops (e.g. strategic marketing with research teams)
- Create information in external workshops (e.g. adjacent industries)

**Alternatives Evaluation**

- Breaking down **strategies** into **themes and platform** level
- **Trend analysis** of markets and technologies
- **Themes strategy** assessment
- **Portfolio** assessment
- **Creativity techniques**
- **Competition strategy** analysis
- **Scenario thinking**
- **Make or buy**-decision platform

## Alternatives for product concepts

**Alternatives Generation**

- Combine information in internal workshops (e.g. competitor experts with sourcing responsibles)
- Create information in external workshops (e.g. suppliers)

**Alternatives Evaluation**

- Breaking down **strategies** into **concept level and technical solutions**
- **Creativity techniques**
- **Competitor products comparison** and extrapolation - **Reverse Engineering** and benchmarking
- **Enthusiasm Model** assessment
- **Alternatives thinking**

## Alternatives for modules/ components

**Alternatives Generation**

- Combine information in internal workshops (e.g. development staff)
- Create information in external workshops (e.g. best practice interviews)

**Alternatives Evaluation**

- **Screening possible modules and components** in interface relations
- **Manufacturing method** analysis
- **Make or buy**-decision for modules
- **Cost forechecking**







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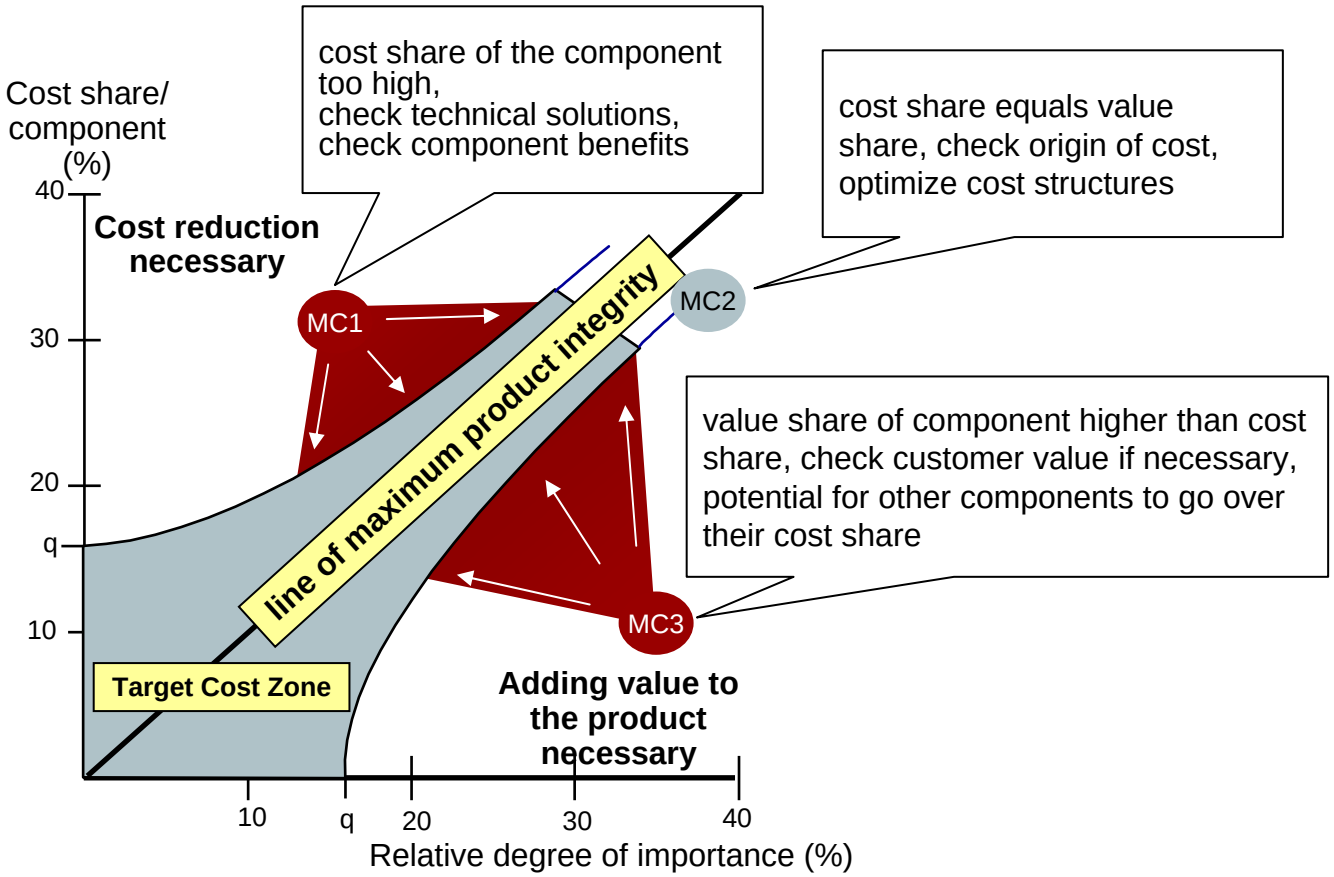
# Cost challenges to be regarded

## Generating Alternatives is restricted to the financial setting of the products derived from Product Target Splitting




- **Along the different stages of Alternatives Generation, cost consciousness needs to be kept and is monitored by the Reverse Calculation.**
- **The earlier in the product definition process, the less reliable underlying data for the Reverse Calculation will be. Therefore, AG will always face the challenge of having to anticipate cost developments based on projected information.**
- **Only long term orientation on a structured derivation of cost corridors will give the Alternatives Generation additional security on the cost estimation side.**

**Alternatives have to be generated for** both modules/components marked red (MC1 / MC3) in order to optimize product integrity in terms of value versus cost. The red areas are indicating the **direction of necessary improvement**.

In reference to Seidenschwarz, W.: Target Costing - Verbindliche Umsetzung marktorientierter Strategien, in: Kostenrechnungspraxis (1994) 1, S. 80







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# Agenda

- Methodology and benefits of the Alternatives Generation
- **The Alternatives Generation at Siemens MD**

# Alternatives Generation in the product development process

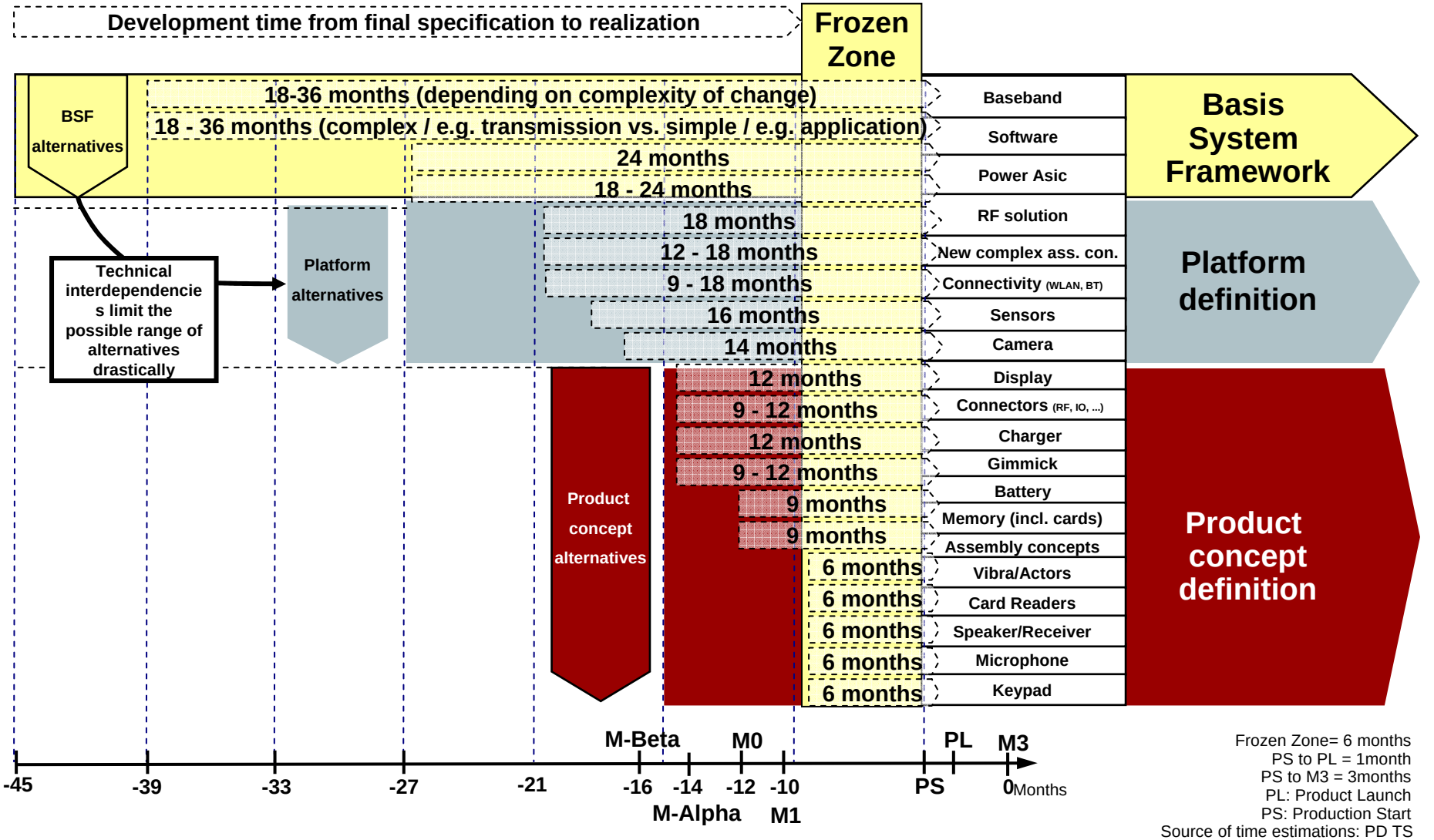
**As the level of detail along the product development process increases, the Alternatives Generation has to be conducted with a different scope for each stage**

| CTO process | Roadmapping / Malpha process | |
|---|---|---|
| | **Focus of TC handbook** | |
|  |  |  |
| The CTO processes are supported with AG/AE regarding:<br>■ **Innovation** alternatives<br>■ **Platform** alternatives | ■ Generation and evaluation of **product concept** alternatives | ■ Generation and evaluation of **module/component** alternatives |

After each generation and evaluation the decision is **frozen and handed over** to the next decision process.

# Different development lead times at MD

**The different development lead times at MD are defining three relevant stages of Alternative Generation and Alternative Evaluation**




Frozen Zone= 6 months
PS to PL = 1month
PS to M3 = 3months
PL: Product Launch
PS: Production Start
Source of time estimations: PD TS





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# Steps of Alternatives Generation for product concepts

**Alternatives Generation as a methodology of triggering and controlling creativity and future-bound thinking needs to be well organized, prepared and executed in order to present feasible results**

Input/ preparation

Tool application/ procedure

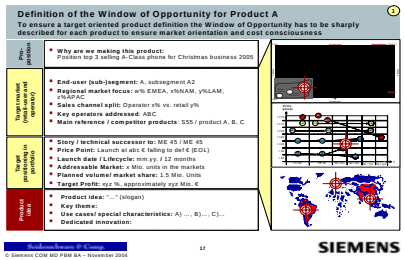
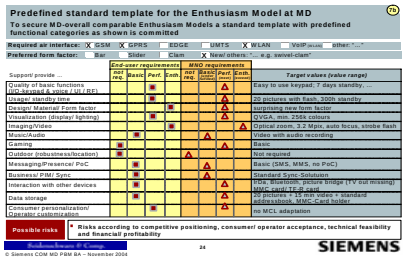
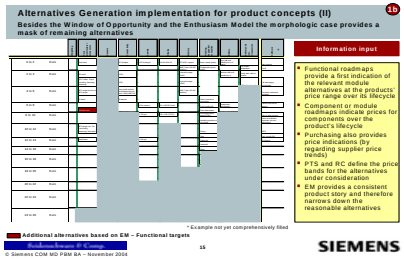
Output/ results

| | | |
|---|---|---|
| 1 | **Setting of framework by**<br>- Window of Opportunity<br>- Enthusiasm Model<br>- Morpologic Case (incl. target cost setting)<br>**and definition of precise objectives** | ▪ What product themes will not be in focus?<br>▪ Which are the critical market requirements and respective technical values?<br>▪ What is the defined cost frame to generate profitable product concepts (value driven development)?<br>▪ What are the key questions and “knock-out criteria” |
| 2 | **Brainstorming to determine alternative product concepts** | ▪ Which new functional topics do we want to address?<br>▪ Are there operator requirements really mandatory?<br>▪ Are their different solutions to address the key theme?<br>▪ What is happening in adjacent industries (trends)? |
| 3 | **Discussion and clustering of generated alternative product concepts ideas** | ▪ Which ideas can be merged or clustered to overall product concepts?<br>▪ Are there aspect missing to define competitive product concepts? |
| 4 | **Selection of feasible product concepts by ranking at least top 3 alternatives** | ▪ Do the alternatives fit the precise objektives?<br>▪ Based on a cross-functional discussion of the whole product team which alternatives are perceived to be the most interesting? |
| 5 | **Specification of selected product concept alternatives** | ▪ What product themes will not be in focus of product development?<br>▪ What financial guidelines do we have?<br>▪ Is the Window of Opportunity/ TTM matched? |

# Alternatives Generation implementation for product concepts (I)

1a

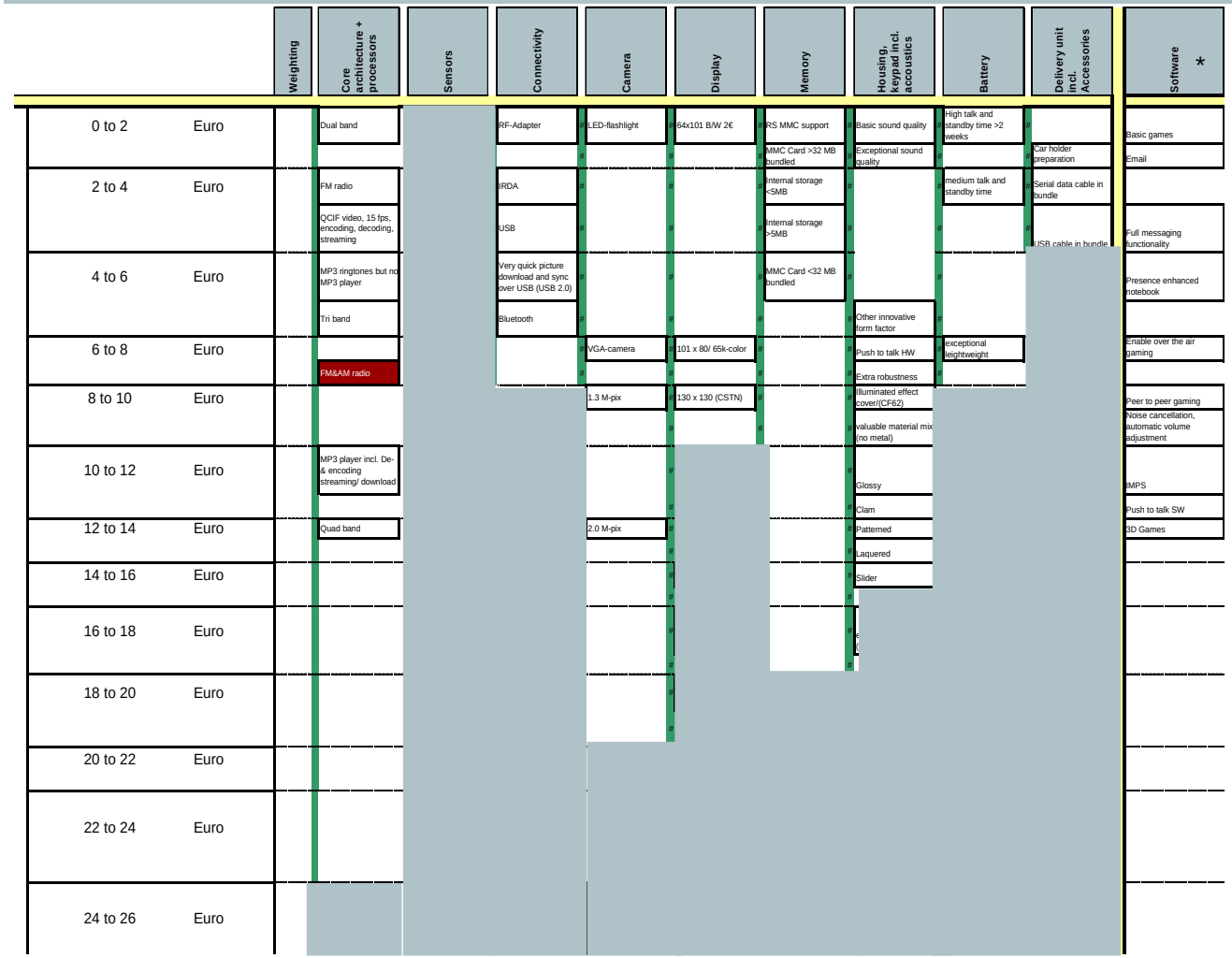
**Besides the Window of Opportunity and the Enthusiasm Model the Cost-Module Matrix provides a mask of remaining alternatives**

| Setting of framework | | Definition of precise objectives |
|---|---|---|
| Window of Opportunity |  | Definition of precise objectives concerning<br>▪ the target market,<br>▪ the target portfolio positioning and<br>▪ the product idea. |
| Enthusiasm Model |  | Definition of precise objectives concerning<br>▪ the innovation and themes roadmaps,<br>▪ the real mandatory operator requirements,<br>▪ other |
| Morphologic Case |  | Definition of precise objectives concerning<br>▪ the defined target costs on module level,<br>▪ possible cost reduction issues,<br>▪ other |
| “Knock-out criteria” | | ▪ Technological aspects:<br>▪ other |

# Alternatives Generation implementation for product concepts (II)

1b

## The Cost-Module Matrix defines the range of possible features and components for the creation of product concept alternatives




### Information input

- Functional roadmaps provide a first indication of the relevant module alternatives at the products' price range over its lifecycle
- Component or module roadmaps indicate prices for components over the product's lifecycle
- Purchasing also provides price indications (by regarding supplier price trends)
- PTS and RC define the price bands for the alternatives under consideration
- EM provides a consistent product story and therefore narrows down the reasonable alternatives

* Example not yet comprehensively filled

**Additional alternatives based on EM – Functional targets**

# Alternatives Generation implementation for product concepts (III)



**After the review of the relevant framework various conceptual alternatives have to be generated, selected and specified during an AG workshop**

| Concept brainstorming | Concept Discussion & Clustering | Concept ranking | Concept detailing |
|---|---|---|---|
| **Objective**<br>▪ Pool of creative ideas for product concepts | **Objective**<br>▪ Structuring of con-cept ideas in clusters<br>▪ Slogan for each cluster | **Objective**<br>▪ Pre-selection of concept ideas for in-depth evaluation | **Objective**<br>▪ Description of functional characteristics for each alternative |
| **Success factors**<br>▪ Good preparation and clear objectives<br>▪ No discussions<br>▪ Big picture thinking in concepts, not in details<br>▪ Experienced cross-functional teams | **Success factors**<br>▪ Stay open-minded even if concepts do not seem feasible on the first sight<br>▪ Set up alternatives clusters that base on market needs and/ or technical reach | **Success factors**<br>▪ Encourage diversity of selected alternatives<br>▪ Mix of common and exceptional ideas<br>▪ Rational-based selection | **Success factors**<br>▪ Availability of experts<br>▪ Detailed documentation of results |

**PDM as facilitator**
**(Structured approach of workshop)**

# Alternatives Generation implementation for product concepts (IV)

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**The results of the Alternatives Generation have to be specified in a structured way to pass on to the Alternative Evaluation**

| Product functions | Nestor Base Case | Nestor Design Phone | Nestor Connector Phone | Nestor Camera Phone |
|---|---|---|---|---|
| **Make and receive calls** (Quality of basic function – I/O/ UI/ RF) | **Tri band / high talk & standby time** | | | |
| **Appeal to user** (Design/ Material / Form factor) | classic & elegant metal housing | Thinnest (17mm) metal housing & leather/ rubber | | Thicker housing than base case (21 mm) |
| **Support imaging and video** | VGA camera, no Flash, 2x digital zoom | | | 1.3 Mpix camera with 3x optical zoom |
| **Support music and audio** | Common music files supported | MP3 ringtones supported | Surround sound speaker system | |
| **Provide gaming** | Provide gaming | | | |
| **Provide outdoor/ leisure features** (e.g. sensors) | Not wanted | | | |
| **Enable messaging** | Enable messaging | | | |
| **Support business applications** (incl. PIM and Sync) | Standard organizer functionality | | | |
| **Provide additional services** (e.g. location services) | Not wanted | | | |
| **Provide visualization** (Display) | 176x220, TFT 2,1', 256k | 132x176, TFT, 1,8', 265k | 176x220, TFT 2,1', 256k | 176x220, TFT 2,1', 256k |
| **Provide usage-/ standby time** | 300 h (Li-Ion 750 mAh) | | | 400 h (Li-ion 900 mAh) |
| **Interaction with devices** | Slim Lumberg, IrDa | New Lumberg solution | **IrDa** | |
| **Store data** | 32MB, MMC slot | | MMC card 32MB bundled | MMC card 32MB bundled |
| **Consumer personalization/ Operator customization** | **Main operator UI supported** | | | clubbers wristband |

**Responsibles for Alternatives Evaluation**

| Strategic and Portfolio fit | Financial fit | Competitiveness Operators | Competitiveness End-Users | Technical Feasibility | Resource fit | Time to Market fit |
|---|---|---|---|---|---|---|
| N.N. | N.N. | N.N. | N.N. | N.N. | N.N. | N.N. |

# Alternatives Generation implementation for product creation (V)

**All possible features selected by the Enthusiasm Model are further filtered according to the MD price points thus resulting in several feature set alternatives per price point**